

**Amendments to the Claims:**

Please add claims 172-185 as follows:

172. (New) An optical module to transmit serial data to and receive serial data from a motherboard, the optical module comprising:

a serial connector to transfer the serial data;

a laser diode electrical signal converter to convert the received serial data into a laser diode electrical signal;

a laser diode module to convert the laser diode electrical signal into a laser diode optical signal and transmit the laser diode optical signal;

a photo diode module to receive a photo diode optical signal and to convert the photo diode optical signal into a photo diode electrical signal;

a photo diode electrical signal converter to receive the photo diode electrical signal from the photo diode module, generate the serial data to be transmitted, wherein the serial data is based on the photo diode electrical signal, and to transmit the generated serial data to the serial connector;

a single circuit board having a first surface and a second surface; and

a frame to at least partially encase the circuit board, the laser diode module and the photo diode module;

wherein the serial connector and the laser diode electrical signal converter are mounted on the circuit board;

the laser diode module and the photo diode module are electrically connected to the circuit board proximate to a first edge of the circuit board; and

the serial connector is positioned proximate to a second edge of the circuit board that is opposite the first edge of the circuit board.

173. (New) The optical module of claim 172, further comprising at least one variable resistor to adjust the laser diode electrical signal.

174. (New) The optical module of claim 172, wherein the laser diode optical signal has a wavelength of 780nm.

175. (New) The optical module of claim 172, wherein the laser diode optical signal is emitted with a maximum power of 5 mW.

176. (New) An optical module to transmit serial data to and receive serial data from a motherboard, the optical module comprising:

a serial connector to transfer the serial data;

a laser diode electrical signal converter to convert the received serial data into a laser diode electrical signal;

a laser diode module to convert the laser diode electrical signal into a laser diode optical signal and transmit the laser diode optical signal;

a photo diode module to receive a photo diode optical signal and to convert the photo diode optical signal into a photo diode electrical signal;

a photo diode electrical signal converter to receive the photo diode electrical signal from the photo diode module, generate the serial data to be transmitted, wherein the serial data is based on the photo diode electrical signal, and to transmit the generated serial data to the serial connector;

a single circuit board having a first surface and a second surface; and

a frame to at least partially encase the circuit board, the laser diode module and the photo diode module;

wherein the serial connector and the laser diode electrical signal converter are mounted on the circuit board;

the laser diode module and the photo diode module are electrically connected to the circuit board proximate to a first edge of the circuit board; and

a plurality of pins to mount the optical module to the motherboard are fixed to the frame.

177. (New) The optical module of claim 176, wherein the pins are integrally fixed to the frame.

178. (New) An optical module to transmit serial data to and receive serial data from a motherboard, the optical module comprising:

a serial connector to transfer the serial data;

a laser diode electrical signal converter to convert the received serial data into a laser diode electrical signal;

a laser diode module to convert the laser diode electrical signal into a laser diode optical signal and transmit the laser diode optical signal;

a photo diode module to receive a photo diode optical signal and to convert the photo diode optical signal into a photo diode electrical signal;

a photo diode electrical signal converter to receive the photo diode electrical signal from the photo diode module, generate the serial data to be transmitted, wherein the serial data is based on the photo diode electrical signal, and to transmit the generated serial data to the serial connector;

a single circuit board having a first surface and a second surface;

a frame to at least partially encase the circuit board, the laser diode module and the photo diode module;

a laser diode module shield to shield the laser diode module; and  
a photo diode module shield to shield the photo diode module  
wherein the serial connector and the laser diode electrical signal converter are mounted  
on the circuit board;

the laser diode module and the photo diode module are electrically connected to the  
circuit board proximate to a first edge of the circuit board; and

the serial connector is positioned proximate to a second edge of the circuit board that is  
opposite the first edge of the circuit board.

179. (New) The optical module of claim 178, wherein the laser diode module shield and  
the photo diode module shield the laser diode module and the photo diode module, respectively,  
from electromagnetic and electrostatic noise.

180. (New) An optical module to transmit serial data to and receive serial data from a  
motherboard, and to transmit optical data across an optical fiber having an optical plug, the  
optical module comprising:

a serial connector to transfer the serial data;

a laser diode electrical signal converter to convert the received serial data into a laser  
diode electrical signal;

a laser diode module to convert the laser diode electrical signal into a laser diode optical  
signal and transmit the laser diode optical signal;

a photo diode module to receive a photo diode optical signal and to convert the photo  
diode optical signal into a photo diode electrical signal;

a photo diode electrical signal converter to receive the photo diode electrical signal from  
the photo diode module, generate the serial data to be transmitted, wherein the serial data is

based on the photo diode electrical signal, and to transmit the generated serial data to the serial connector;

a single circuit board having a first surface and a second surface;

a frame to at least partially encase the circuit board, the laser diode module and the photo diode module; and

a plurality of pawls to removably engage a fiber optic plug to the optical module;

wherein the serial connector and the laser diode electrical signal converter are mounted on the circuit board; and

the laser diode module and the photo diode module are electrically connected to the circuit board.

181. (New) The optical module of claim 180, wherein the pawls are formed from the frame.

182. (New) A module cap comprising:

a first cap portion and a second cap portion to protect a laser diode module and a photo diode module of an optical module, respectively,

wherein the first cap portion and the second cap portion are each formed having a cavity with a projection formed therein, and into each of said cavities one of a laser diode module and a photo diode module is at least partially inserted when the module cap is attached to the optical module.

183. (New) The optical module of claim 182, further comprising a handle to facilitate removably attaching the module cap to the optical module.

184. (New) A module cap for protecting an optical module having a laser diode module and a photo diode module, the module cap comprising:

a laser diode projection; and

a photo diode projection;

wherein the module cap is formed having a laser diode cavity into which the laser diode module is at least partially inserted and a photo diode cavity into which the photo diode module is at least partially inserted, and

the laser diode projection is formed in the laser diode cavity and the photo diode projection is formed in the photo diode cavity.

185. (New) A module cap for protecting an optical module, wherein the module cap is formed having a laser diode cavity and a photo diode cavity, the module cap comprising:

a laser diode projection formed in the laser diode cavity; and

a photo diode projection formed in the photodiode cavity.

**Status of Claims and Support for Claim Changes:**

Pursuant to 37 C.F.R. § 1.173(c), the status of the claims and support for the claim changes is provided.

Claims 1-58 (cancelled).

Claims 59-185 (pending).

Support for claims 59-105 added with the Preliminary Amendment filed January 29, 2004 and the Second Preliminary Amendment filed August 31, 2004, claims 106-171 added with the Third Preliminary Amendment, and claims 172-185 filed herein can be found in U.S. Patent No. 5,596,663, which is the subject of this reissue application.